

Claims

1. A method of culturing an oocyte *in vitro*, comprising incubating said oocyte in a hypertonic medium having an osmolarity greater than 300 mosm.

5 2. The method of claim 1, wherein the osmolarity of said medium is greater than 320 mosm.

3. The method of claim 2, wherein the osmolarity of said medium is greater than 340 mosm.

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4. The method of claim 3, wherein the osmolarity of said medium is greater than 360 mosm.

5. The method of claim 1, wherein said medium comprises a sugar selected
15 from the group consisting of sucrose, trehalose, fructose, dextran, and raffinose.

6. A method of culturing an embryo *in vitro* comprising incubating said embryo in a hypertonic medium having an osmolarity greater than 300 mosm.

20 7. The method of claim 6, wherein the osmolarity of said medium is greater than 320 mosm.

8. The method of claim 7, wherein the osmolarity of said medium is greater than 340 mosm.

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9. The method of claim 8, wherein the osmolarity of said medium is greater than 360 mosm.

10. The method of claim 6, wherein said medium comprises a sugar selected from the group consisting of sucrose, trehalose, fructose, dextran, and raffinose.

11. A method of culturing a cell *in vitro*, comprising incubating said cell in a hypertonic medium having an osmolarity greater than 300 mosm; wherein said cell is selected from the group consisting of epithelial cells, epidermal cells, keratinocytes, hematopoietic cells, melanocytes, chondrocytes, B-cells, T-cells, erythrocytes, macrophages, monocytes, fibroblasts, muscle cells, embryonic cells, mesenchymal cells, and adult stem cells.

12. A method of culturing a cell *in vitro*, comprising incubating said cell in a hypertonic medium having an osmolarity greater than 300 mosm; wherein said cell is selected from the group consisting of bladder, esophagus, fallopian tube, heart, intestines, gallbladder, kidney, liver, lung, ovaries, pancreas, prostate, spinal cord, spleen, stomach, testes, thymus, thyroid, trachea, ureter, urethra, and uterus cells.

13. A method of culturing a cell *in vitro*, comprising incubating said cell in a hypertonic medium having an osmolarity greater than 300 mosm, wherein said cell is selected from the group consisting of monkey, ape, cow, sheep, big-horn sheep, goat, buffalo, antelope, oxen, horse, donkey, mule, deer, elk, caribou, water buffalo, camel, llama, alpaca, rabbit, pig, mouse, rat, guinea pig, hamster, dog, and cat cells.